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Summary

In real-time scheduling, feasibility analysis aims at determining whether a task system that emits jobs at regular time intervals, is schedulable on a given set of resources such that all deadlines can be met. Computational hardness and uncertainty obstruct determining feasibility exactly. Therefore performance of approximate feasibility testing and scheduling algorithms for a given processor environment is measured by the speedup factor; the extra speed the processor(s) require to schedule a task system with such an algorithm, given that the task system is feasible if processor(s) run at unit speed. In this dissertation, feasibility tests and scheduling algorithms are given for various problem settings from real-time scheduling. Upper and lower bounds on the required speedup factors are shown.

Suzanne van der Ster (1985) holds a cum laude Bachelor's degree (2008) and cum laude Master's degree (2010) in Econometrics and Operations Research from the Vrije Universiteit Amsterdam. In August 2010, Suzanne started working as a PhD candidate in Operations Research at the Vrije Universiteit in a joint PhD project with La Sapienza Università di Roma. On June 23, 2014, Suzanne defends her dissertation that presents the results of the research performed during her PhD.